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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/914,657	09/24/2001	Tapio Maenpaa	3397-102PUS	2345

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EXAMINER

BAREFORD, KATHERINE A

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 11/21/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

CEL

Office Action Summary	Application No. 09/914,657	Applicant(s) MAENPAA ET AL.	
	Examiner Katherine A. Bareford	Art Unit 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers Claims 1-13 are canceled.

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☒ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> . | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: (1) at page 1 of the specification, after the title, applicant should indicate that this case is a national stage application of PCT/FI00/00166, filed March 2, 2000. (2) at page 5, lines 8-10 of the specification, applicant should remove the reference to claim 1.

Appropriate correction is required.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 14-23 and 25 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 21, 31, 40-46 and 49-52 of copending Application No. 09/914,656. Although the conflicting claims are not identical, they are not patentably distinct from each other because the referred to claims of '656 require all of

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the features required by claims 14-23 and 25 of the present application, as well as requiring other features.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 14-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 14, lines 4 and 5, "coating furnish" is unclear as to what is required. It is unclear what "furnish" is. The description of the coating in the specification, at page 7, for example, provides no indication as to what this is.

Claim 15, this claim does not actually require more than one drying unit, although other possible units are referred to.

Claim 19, lines 6-7, "an evaporation rate of at least one controllable drying unit" is unclear as to what is actually required in the grammatical context of the rest of the claim.

Claim 23, this claim does not actually require more than one drying unit, although other possible units are referred to.

The other dependent claims do not cure the defects of the claims from which they depend.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 14 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Fay et al (US 4087568).

Fay teaches a method for controlling drying effect of an equipment layout used in making a coated web. Figure 1 and column 2, lines 1-35. The coated web can be paper. Column 2, line 65 through column 3, line 5. The equipment layout includes a coater unit and a drying unit. Figure 1 and column 2, lines 55-65. A liquid containing coating is applied to a surface of the web. Figure 1 and column 2, line 55 through column 3, line 5 (given the unclarity as to “furnish” as discussed in the 35 USC 112 rejection above, it appears that the coating would read on the claimed coating of applicant). The coated web is dried in the drying unit by evaporating the liquid from the coated web until a moisture content of the web reaches a desired final moisture value. Figure 1 and column 2, lines 55-65 and column 3, lines 5-65. (note that the measured basis weight is directly based on the moisture content of the web). For the drying unit an evaporation/drying rate model is provided for computing the amount of liquid removed by the drying unit. Column 2, lines 55-65 and column 3, lines 5-65 (see the computation of % VA

which is directly proportional to liquid removed, and note that drying rate would be equivalent to “evaporation rate” since the rates are based on liquid removed by heating). This is linked to/corresponds to the composite evaporation/drying rate model, because only one drying unit is provided, so the model for one is also the composite model for all. The needed evaporation/drying rate to be preformed by the equipment layout to achieve the desired final moisture value is determined. Column 2, lines 1-25. The needed evaporation/drying rate for the drying unit is also determined based on this determination of the equipment layout. The evaporation/drying rate is controlled based on the determined needed moisture evaporation effect. Column 2, lines 1-25.

Claim 15: one drying unit is controlled with the composite evaporation rate model. Column 2, lines 1-25 and column 3, lines 5-65. The claim does not actually require any other drying unit to be present.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 17-21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fay et al (US 4087568).

Fay teaches all the features of these claims, as discussed in the 35 USC 102(b) rejection above, except (1) the specific moisture content measuring (claims 17-20) and (2) the stepwise control (claim 21).

However, as to Claim 17: Fay teaches a basis weight of the web attained after drying the web with the drying unit is measured. Figure 1 and column 3, lines 5-65 (note BW3). The final basis weight is a measure of the final moisture content as well. See column 3, lines 10-20. The measured basis weight is compared with the desired final basis weight. See the requirements of column 2, lines 1-25. The moisture evaporation rate for the drying unit is controlled with the composite evaporation rate model. See the requirements of column 2, lines 1-25,

Claim 18: Fay teaches that the basis weight is measured at at least one point upstream of where the final basis weight is measured to determine an intermediate basis weight value. Figure 1 and column 3, lines 5-65 (note BW2). The intermediate basis weight is a measure of the intermediate moisture content as well. See column 3, lines 10-15. The moisture evaporation rate for the drying unit is controlled, at least in part, by this measurement. See the requirements of column 2, lines 1-25.

Claim 19: Fay teaches that the the initial moisture content of the web can be measured prior to entering the first/only coater unit. See figure 1 and column 3, lines 55-65. The amount of liquid applied to the web in the applying step can be determined. See column 3, lines 5-65 (the measurement of the basis weight of the web before and after coating, and the computation of % VA). The evaporation rate of the drying unit is controlled based, at least in part, on the

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measured initial moisture content, the determined amount of liquid applied and the composite evaporation model. See column 3, lines 5-65.

Claim 20: Fay teaches that operating parameters of the drying unit are varied. See column 4, lines 5-10 and column 2, lines 1-25. A basis weight (proportional to moisture value) downstream of the drying unit is measured. Column 3, lines 5-65 (BW3). The measured value is compared to the value expected using the model. See the steps of column 8, claim 1. The evaporation rate of the drying unit is adjusted to provide a moisture value substantially the same as the desired/predicted value. See the steps of column 8, claim 1 and column 2, lines 1-25.

Claim 23: Fay teaches that any needed change in the overall moisture evaporation effect is allocated among the drying units. Column 2, lines 1-25 (since there is only one drying unit, all changes go to that drying unit).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fay to specifically measure the moisture contents of the web and use that value for calculations with an expectation of desirable coating results, because Fay teaches to controlling the moisture content of the web through control of the residual volatiles in the dried web and further teaches the measurement of basis weight which is directly proportional to moisture weight of the web, and thus the use of moisture weight as the measurement would result in calculations directly proportional to those provided by Fay. It further would have been obvious to one of ordinary skill in the art to modify Fay to provide stepwise changes with an expectation of desirable coating results, because Fay specifically teaches a process based on controlling the

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drying unit based on measurements, and each new measurement would result in a specific individual recalculation and adjustment, which would provide stepwise control/adjustments.

10. Claims 16, 22 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fay as applied to claims 14-15 above, and further in view of WO 98/41805 (hereinafter '805).

Fay teaches all the feature of these claims except (1) the at least two drying units controlled by the composite model (claim 16), (2) using an output from one evaporation rate submodel of a drying unit as an input value to a next drying unit (claim 22), (3) using an output from one submodel as an input value for a preceeding unit (claim 24, 25), and (4) the use of subsystems each of a coater and dryer (claim 25, 26).

However, '805 teaches that when coating a paper web, more than one dryer can be provided after the coater. Abstract and figure 1. The residual moisture of the web can be checked at various points. Abstract and figure 1. One or more of the dryers can be adjusted to provide a web with the desired residual moisture. Abstract and figure 1.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fay to provide more than one dryer and control them using the composite model with subsystems as suggested by '805 with an expectation of desirable coating results, since Fay teaches coating and drying with control of the dryer to provide the desired moisture content in the web and '805 teaches that when coating and drying with multiple dryers the dryers can be controlled interdependently to provide the resulting desired moisture content. As to using the

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output from moisture content measurements in a feed forward or feed back pattern (claims 22, 24), it would have been obvious to provide adjustments in both directions so as to optimize the results in the quickest fashion, given the desire for efficiency and the continuous adjustments on the web shown by the references. As to the use of coating systems with multiple coater/dryer combinations, it would have been obvious to one of ordinary skill in the art to modify Fay in view of '805 to provide integrated control of such a system when providing more than one coating in series on a web, since Fay in view of '805 provides the suggestion of integrated control, and when providing a series of coatings on the web, with desired final moisture content, further control would be repetitive of what is taught by the combination of references.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine A. Bareford whose telephone number is (703) 308-0078. The examiner can normally be reached on M-F(7:00-4:30) with the First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive P. Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.


KATHERINE A. BAREFORD
PRIMARY EXAMINER
GROUP 1100/700